

REMARKS

I. Status of the Claims

Claims 33-50 are pending. No claims have been amended herein.

II. Objection to the Specification

The Examiner has objected to the specification as containing grammatical errors, such as run-on sentences and misspellings, and improperly using trademarks. See page 2-3 of the present Office Action. Applicant respectfully requests the objection be held in abeyance until indication of otherwise allowable subject matter. The specification will be amended to overcome these objections at that time.

III. Interview

The undersigned respectfully request an interview with the Examiner and his SPE before further action on the application.

IV. Rejection Under 35 U.S.C. § 102(b)

The Examiner has maintained the rejection of claim 33 under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 5,561,185 to Hashimoto et al. ("Hashimoto") for the reasons disclosed at pages 3-4 and 9-11 of the present Office Action. Applicant respectfully traverses this rejection for at least the reasons of record as well as for the following reasons. Applicant notes that while the Examiner has stated in the Advisory Action that the arguments are not persuasive, the Examiner has not addressed the

substance of any of the argument proffered since the August 22, 2003, Response, inclusive.

In order to anticipate a claim, a reference must teach, either expressly or inherently, each and every limitation of the claim. M.P.E.P. § 2131; PIN/NIP, Inc., v. Platte Chem. Co., 64 U.S.P.Q.2d 1344, 1349 (Fed. Cir. 2002). Claim 33 is drawn to a method for controlling the strippability of a coating layer on an electrical conductor. Applicant maintains that *Hashimoto* does not expressly or inherently teach all limitations of pending method claim 33. Specifically, the reference does not expressly or inherently teach (1) a polyolefinic compound which contains at least one unsaturation and at least one carboxyl group in the polymer chain or (2) a method for controlling the strippability of a coating layer by the addition of the polyolefinic compound.

A. “A polyolefinic compound which contains at least one unsaturation and at least one carboxyl group in the polymer chain.”

As set forth in claim 33, this method involves, *inter alia*, adding a predetermined amount of a polyolefinic compound, which contains at least one unsaturation and at least one carboxyl group in the polymer chain, to a polymeric composition. Applicant maintains that while *Hashimoto* discloses a polymeric composition, it fails to teach the addition of a polyolefinic compound, which contains both (i) at least one unsaturation in the polymer chain and (ii) at least one carboxyl group in the polymer chain.

As recited in the claim, the coating layer comprises at least two materials. Specifically, the layer comprises at least (1) a “polymeric composition” to which is added (2) “a predetermined amount of a polyolefinic compound.” The specification describes

the polymeric composition as a “polymer matrix” and the polyolefinic compound as a “coupling agent” or “carboxylated polyolefin.” See, e.g., specification at 6-7. The specification further explains that the “polyolefinic compound” or “carboxylated polyolefin” are derived from the polymerization of (1) diene, triene, or some other polyene and (2) carboxylated compound. Specification at page 15, line 1 - page 16, line 21. The specification also describes the “polymeric composition” or “polymer matrix” as encompassing a broad range of polymers. Specification at 19, line 16 - page 20, line 9.

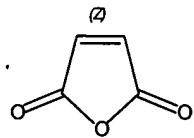
In contrast, *Hashimoto* teaches a resin composition comprising: (a) a polypropylene-series resin, (b) polyethylene modified with an unsaturated carboxylic acid or its derivative, (c) a metal hydrate, (d) an ethylene-series copolymer, and (e) optionally, an aromatic vinyl/diene block copolymer. Col. 3, lines 8-18.

1. THE (B) POLYETHYLENES
DO NOT QUALIFY

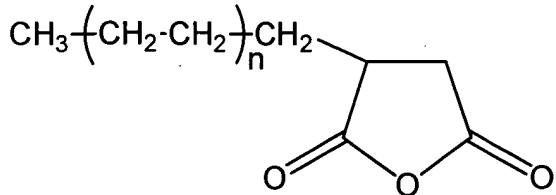
The “(b) Modified polyethylenes” described in *Hashimoto* in column 4, lines 34-67 may qualify as claim 33’s polymeric composition, but they are **not** a polyolefinic compound containing at least one unsaturation in the polymer chain. Contrary to the Examiner’s assertion (page 4), there is no description of a compound with at least one unsaturation in the polymer chain as claimed in applicants present invention.

First, polyethylene is by definition a saturated chain and therefore contains no unsaturation in the chain. See e.g., Hawley’s Condensed Chemical Dictionary, at pages 894-95 (14th ed. 2001) (courtesy copy previously submitted).

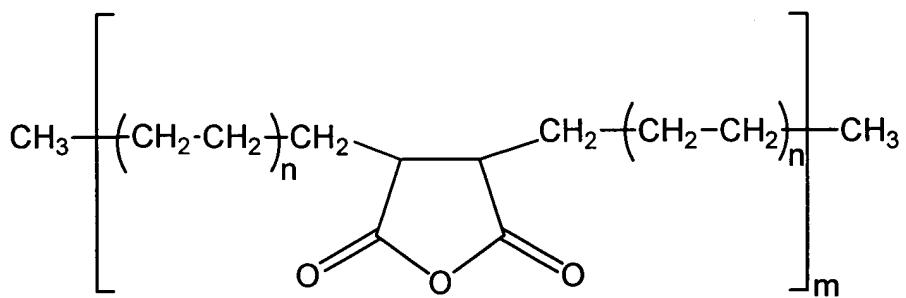
Second, contrary to the Examiner's assertion (page 10), *Hashimoto's* modification with an unsaturated carboxylic acid does not yield a polymeric compound with an unsaturation in the chain. The disclosed unsaturated carboxylic acid and/or its derivative contains at least one unsaturation **prior to reaction**. That unsaturated bond opens up and becomes saturated during catalysis by initiation with peroxide and subsequent reaction with the polyethylene. See e.g., col. 4, lines 34-67. Accordingly, for example, a reaction of polyethylene, $\text{CH}_3(\text{CH}_2\text{-CH}_2)_n\text{CH}_3$, with maleic anhydride,



, may result in, for example, the following products:



or



No product from this reaction will contain at least one unsaturation in the chain, as required by the presently claimed invention.

Third, contrary to the Examiner's argument (page 11), the disclosure of polyethylene in Applicant's specification does not support the assertion that (b)

polyethylenes qualify as "polyolefinic compounds," as claimed. As explained above, the recited text on page 19 of the Specification refers to a completely different polymeric material, *i.e.*, the matrix, which is the polymeric composition to which the polyolefinic compound is added. Applicant does not deny that this disclosure may qualify as the "polymeric composition" element of claim 33 but not both elements of the claim.

2. THE (E) AROMATIC VINYL/DIENE BLOCK COPOLYMERS DO NOT QUALIFY

The "(e) aromatic vinyl/diene block copolymers" described in *Hashimoto* in column 5, lines 33-65, may qualify as the claim's polymeric composition, but they are not a polyolefinic compound containing at least one unsaturation and at least one carboxyl group in the polymer chain. Specifically, the "(e) aromatic vinyl/diene block copolymers" do not have at least one carboxyl group in the polymer chain, a fact not denied by the Examiner.

Further, contrary to the Examiner's assertion (page 11), Applicant has not asserted that "butadiene is the only material responsible for the unsaturated position." As explained above, the specification defines the claimed polyolefinic compound as being derived from (1) polyene monomers containing from 4 to 16 carbon atoms, such as dienes and trienes, and (2) carboxylated compounds. Specification at page 15, line 1 - page 16, line 21.

Nevertheless, at no point does *Hashimoto* suggest polymerizing these block polymers with a carboxylated compound. *Hashimoto* only discloses "**modified polyethylenes**" as a separate and distinct compound. The mere mixture of these two

compounds in a resin does not qualify as "a polyolefinic compound which contains at least one unsaturation and at least one carboxyl group in the polymer chain."

Accordingly, for at least the foregoing reasons, Applicant maintains that *Hashimoto* fails to teach the presently claimed "polyolefinic compound which contains at least one unsaturation and at least one carboxyl group in the polymer chain."

B. A method for controlling the strippability of a coating layer

Claim 33 is drawn to a method for controlling the strippability of a coating layer wherein, *inter alia*, the strippability is controlled by the addition of a polyolefinic compound, which contains at least one unsaturation and at least one carboxyl group in its polymer chain. For purposes of this argument only, Applicant accepts that *Hashimoto* discloses a product with strippability (col. 2, lines 41-43); however, *Hashimoto* fails to teach the control of strippability, particularly with a polyolefinic compound.

Applicant's specification explains that loads less than 15 g/mm were considered satisfactory. Specification at pages 30-31. As further explained on pages 32-33, Table 3 of the Specification shows that the use of the recited polyolefinic compound controls the degree of strippability in the coating layer. In fact, certain levels of the compound, such as in example 1-13, can yield unacceptable levels of strippability. See specification at page 32.

Hashimoto fails to teach controlling the strippability of a coating layer wherein, *inter alia*, the strippability is controlled by the addition of a compound, specifically the recited polyolefinic compound. Rather, *Hashimoto* merely discloses: "an electric wire

... that is good in workability of the covering layer at the end of the covered wire in the step of removing the covering layer." See col. 1, lines 19-21, and col. 2, lines 41-43.

1. ***HASHIMOTO DISCLOSES A STRIPPABLE MATERIAL BUT NOT HOW TO CONTROL STRIPPABILITY***

In the present Office Action, the Examiner asserts that, based on these passages, "clearly, there exists a method of stripping." See page 10 of the present Office Action. However, the issue is NOT whether *Hashimoto* discloses a method of stripping, but whether it discloses a method for **controlling** strippability of a coating layer AND wherein, *inter alia*, the strippability is controlled by the **addition** of a specific **polyolefinic compound**. Applicant maintains that *Hashimoto* fails to recognize the correlation and therefore, by definition, cannot disclose controlling strippability.

For example, with respect to the passage at column 1, lines 19-21, of *Hashimoto*, cited by the Examiner, there is no disclosure of how to control the strippability of the covering layer by the addition of a polyolefinic compound. There is simply no indication which component, or mixtures of components from col. 3, lines 7-47, yields the property of "workability."

2. ***HASHIMOTO TEACHES THAT MODIFIED POLYMERS DO NOT CONTROL STRIPPABILITY***

Furthermore, Table 4 of *Hashimoto* unequivocally shows that neither the presence nor the absence of *Hashimoto*'s polyethylene or polypropylene modified with maleic anhydride (which the Examiner asserts are the recited polyolefinic compound) influences, let alone controls, the workability at the end of the wire. Specifically, the

Examples of the *Hashimoto*'s invention with acceptable workability have the same level of such modified polymers (MAH-PE, MAH-PP) as the Comparative Examples, which are decidedly inferior. See e.g., col. 15, lines 26-32; compare Examples 10-22 with Comparative Examples 10, 12, 13, 16, 17. The data clearly shows no controllability due to the polymers identified by the Examiner.

3. ***HASHIMOTO CANNOT TEACH CONTROLLING STRIPPABILITY VIA THE POLYOLEFINIC COMPOUND BECAUSE IT DOES NOT TEACH THE POLYOLEFINIC COMPOUND.***

Finally, as discussed above, *Hashimoto* fails to teach the presently claimed "polyolefinic compound which contains at least one unsaturation and at least one carboxyl group in the polymer chain." Therefore, *Hashimoto* CANNOT teach a method for controlling the strippability of a coating layer using the presently recited polyolefinic compound.

Because *Hashimoto* fails to identify which component(s) are relevant to the observed properties of the covering layer or which observed properties they affect, one of ordinary skill in the art could not read *Hashimoto* to find a method of controlling strippability. Accordingly, for at least the foregoing reasons, Applicant maintains that *Hashimoto* fails to expressly or inherently teach the presently claimed method for controlling the strippability of a coating layer.

For at least the foregoing reasons, Applicant respectfully requests the pending rejection for anticipation be withdrawn.

V. Rejection Under 35 U.S.C. § 103

The Examiner has maintained the rejection of claims 33-50 under 35 U.S.C. § 103 as obvious over *Hashimoto* in view of U.S. Patent No. 4,801,639 to Hoshi et al. ("*Hoshi*") for the reasons disclosed at pages 4-8 and 10-13 of the Final Office Action. Applicant respectfully traverses this rejection for at least the reasons of record as well as for the following reasons. Applicant notes that while the Examiner has stated in the Advisory Action that the arguments are not persuasive, the Examiner has not addressed the substance of any of the argument proffered since the August 22, 2003 Response, inclusive.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See M.P.E.P. ' 2143. Moreover, "[i]t is improper to combine references where the references teach away from the proposed combination." See e.g., M.P.E.P. § 2145.

A. There is no Motivation to Combine the References

The Examiner has repeated his argument that "there clearly exist[s] a motivation for modifying the flame retardant composition of *Hashimoto* to comprise the carboxylated compound . . . as taught by *Hoshi* because [1] *Hoshi* teaches that such a carboxylated compound utilized in a conductor covering composition generates no

hazardous and corrosive gases of halogen type during burning due to fire outbreak and [2] is capable of preventing the deterioration and significant reduction in chemical resistance occurring of surfaces of the prior art resins and [3] are known in the art." See page 11 of the Final Office Action. However, Applicant respectfully submit that the Examiner has misinterpreted the teachings of *Hoshi* and that the *Hoshi* does not provide any basis for a motivation, and, in fact, provides a basis for a reasonable expectation of failure.

1. **HOSHI DOES NOT TEACH THE CARBOXYLATED COMPOUND REDUCES HAZARDOUS AND CORROSIVE GASSES**

With respect to the Examiner's argument at page 11 that the requisite motivation arises because "*Hoshi* teaches that such a carboxylated compound utilized in a conductor covering composition generates no hazardous and corrosive gases of halogen type during burning due to fire outbreak," Applicant submits that this statement is factually unsupportable.

Specifically, the Examiner fails to address the fact that *Hoshi* attributes the production of such gases strictly to the use of halogen compounds and antimony trioxide as flame retardants. See e.g., col. 1, lines 13-31. The advantage that the Examiner cites as a basis for combination is achieved from the use of metal hydroxides and NOT the use of a carboxylated compound. Col. 1, lines 26-31. Accordingly, the present rejection cannot be maintained on this basis.

2. ***HOSHI DOES NOT TEACH THE CARBOXYLATED COMPOUND PREVENTS THE DETERIORATION AND SIGNIFICANT REDUCTION IN CHEMICAL RESISTANCE***

With respect to the Examiner's argument at page 11 that the requisite motivation arises because "*Hoshi* teaches that such a carboxylated compound utilized in a conductor covering composition . . . is capable of preventing the deterioration and significant reduction in chemical resistance occurring of surfaces of the prior art resins," Applicant submits that this statement is also unsupportable and erroneous.

First, the Examiner does not refute the fact that *Hoshi* does NOT teach that the dicarboxylic acid or dicarboxylic acid anhydride derivative (the carboxylated compound referred to by the Examiner), by itself, is capable of preventing the deterioration and significant reduction in chemical resistance. In fact, *Hoshi* teaches that this alleged feature exists "**because** [*Hoshi*] comprises a silane-grafted polymer **and** a dicarboxylic acid or dicarboxylic acid anhydride derivative." See col. 2, line 66 - col. 3, line 4 (emphasis added). In fact, *Hoshi* explains that such an advantage is due to the silanol linkages. Col. 1, line 59 to col. 2, line 13. Specifically, in *Hoshi*'s olefinic resin composition, "there are formed (a) siloxane linkages between the silane-grafted polymer and the hydrated metal compound and (b) complex salt linkages between the dicarboxylic acid or dicarboxylic acid anhydride derivative and the hydrated metal compound." See col. 5, lines 26-30. *Hoshi* teaches that "**[t]he synergistic effect of these two types of linkages** can remarkably reduce the surface deterioration and severe surface attack by chemicals which occur at conventional flame-retardant resin compositions using a hydrated metal compound." See col. 5, lines 30-36 (emphasis

added). However, *Hoshi* warns that “[s]evere requirements for flame-retardant resin compositions **can be met only by the synergistic effect of the two types of linkages and can never be met by either one of the two linkages.**” See col. 5, lines 36-39 (emphasis added).

Second, *Hashimoto* fails to teach, suggest, or even mention a silane-grafted polymer. Thus, according to the teachings of *Hoshi*, and not denied by the Examiner, the Examiner’s proposed addition of *Hoshi*’s dicarboxylic acid or dicarboxylic acid anhydride derivative to *Hashimoto*’s compositions would NOT have been expected to result in the reduction of surface deterioration and severe surface attack by chemicals touted by *Hoshi*. Moreover, one of ordinary skill in the art would not have been motivated to make the proposed modification in order to obtain the object of *Hoshi*’s invention, i.e., “preventing the deterioration and significant reduction in chemical resistance occurring of surfaces of the prior art resins,” because, *inter alia*, *Hoshi teaches away* from the use of its dicarboxylic acid or dicarboxylic acid anhydride derivative in the absence of its silane-grafted polymer. Accordingly, the present rejection cannot be maintained on this basis either.

3. THE MERE FACT THAT HOSHI DISCLOSES THAT THE PRIOR ART KNEW OF CARBOXYLATED COMPOUNDS IS IRRELEVANT.

Furthermore, with respect to the Examiner’s assertion that the requisite motivation arises because “*Hoshi* teaches that such a carboxylated compound utilized in a conductor covering composition . . . are known in the art,” the Examiner asserts that “it has been held to be within general skill of a worker in the art to select as known

material on the basis of its suitability for the intended use as a matter of obvious design choice." See page 13 of the present Office Action (emphasis added). Applicants submit that this argument has no bearing in an obviousness rejection under these facts.

First, the M.P.E.P. explicitly states that the mere fact that one of ordinary skill in the art could combine the teachings is not enough. "[B]ecause the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the reference." M.P.E.P. § 2143.01 (discussing *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Int. 1993)).

Second, even assuming *Hashimoto* in combination with *Hoshi*, as defined by the Examiner, taught the recited composition and compound (and they do not and cannot), like *Hashimoto*, *Hoshi* does not recognize the correlation between the polyolefinic compound and controlling strippability.

Third, the mere fact that *Hoshi* utilizes "known compounds," such as carboxylated compounds, as discussed on page 12 of the Final Office Action, is not relevant. The M.P.E.P. has explained that there is no "matter of a design choice," if the reference fails to recognize that the compound affects the property in question. M.P.E.P. § 2144.05 (II)(B). Here, *Hoshi* fails to recognize the effect of the compounds on strippability and Applicant's specification is not in the prior art and, thus, unavailable to provide that information to a person of ordinary skill in the art.

Fourth, the modification proposed by the Examiner does NOT involve "the selection of a known material based on its suitability for its intended use," as suggested on page 12 of the Final Office Action. See M.P.E.P. § 2144.07. Applicant notes that *Hashimoto* fails to disclose a polyolefinic compound as a coupling agent and the compounds of *Hoshi* are intended to be used only in conjunction with a silane grafted polymer, a component *Hashimoto* does not teach or suggest for its compositions.

Finally, as discussed in Section III, *Hashimoto* does not inherently or expressly teach all the limitations of the claims. Applicant incorporates by reference herein those arguments, and further asserts that there is no evidence that *Hoshi* corrects these deficiencies.

B. No Reasonable Expectation of Success

Contrary to the Examiner's assertions, there is no reasonable expectation of success. As discussed above, the only motivation offered by the Examiner to combine *Hoshi*'s carboxylated compound with *Hashimoto*'s coating layer is based on the presence of silane compounds. However, these silane compounds are not present in (1) the composition proposed by the Examiner or (2) *Hashimoto*'s coating layer. Accordingly, there cannot be an expectation of success without all of the elements required by *Hoshi* present. In fact, *Hoshi* expressly states that "[s]evere requirements for flame-retardant resin compositions . . . can never be met by either one of the two linkages," i.e., the combination proposed by the Examiner. See col. 5, lines 36-39 (emphasis added).

For at least the foregoing reasons, Applicant respectfully requests the pending rejection for obviousness be withdrawn.

V. Conclusion

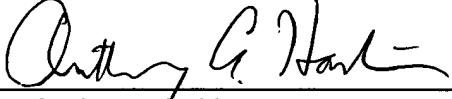
Applicant submits that this claimed invention is neither anticipated nor rendered obvious in view of the cited references. Applicant therefore requests reconsideration and reexamination of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: March 26, 2004

By: 
Anthony A. Hartmann
Reg. No. 43,662